

AMENDMENTS TO THE CLAIMS

1. (Canceled)

2. (Canceled)

3. (Previously presented) A cutting portion structure of a core drill including a cylindrical core body; and cutting blades, the cutting portion structure comprising:

an opening end portion formed on the cylindrical core body, the opening end portion having a tip end portion rounded in a semispherical shape as viewed from a direction substantially perpendicular to a cross-section in a radial direction of the core body,

wherein the cutting blades are formed at the opening end portion of the cylindrical core body and arranged in a circumferential direction of the core body to have gaps between the cutting blades, and the cutting blades include diamond grains bound on the opening end portion from an inner peripheral side of the core body to an outer peripheral side of the core body,

wherein the opening end portion is partially expanded in the radial direction to have a thickness larger than a thickness of a base end side portion of the core body which is closer to a base end of the core body than the opening end portion is, and the expanded portion of the opening end portion is entirely rounded as viewed from the direction substantially perpendicular to the cross-section in the radial direction,

the cutting portion structure further comprising a step portion formed between the opening end portion and the base end side portion of the core body to form a right angle between the step portion and the base end side portion.

4. (Previously presented) The cutting portion structure of a core drill according to claim 3, further comprising:

a gallet formed on a portion of a tip end portion of the core body which is located forward relative to the cutting blade in a rotational direction of the core drill such that the gallet is located adjacent the cutting blade to allow chips resulting from cutting to be discharged therethrough.

5. (Original) The cutting portion structure of a core drill according to claim 4, wherein the gallet is structured such that a bottom portion thereof is located radially inward relative to an outer peripheral face of the core body, and an upper end portion of the gallet forms a face continuous with a base end side portion of the core body which is located above the gallet.

6. (Previously presented) The cutting portion structure according to claim 4, further comprising:

a protruding portion formed in a spiral shape on an outer peripheral face of the base end side portion of the core body which is located above the gallet to allow chips generated by the cutting blade to be discharged toward the base end.

7. (Previously presented) The cutting portion structure according to claim 5, further comprising:

a protruding portion formed in a spiral shape on an outer peripheral face of the base end side portion of the core body which is located above the gallet to allow chips generated by the cutting blade to be discharged toward the base end.

8. (Currently amended) A core drill comprising:
a cylindrical core body having a side wall terminating in an opening end, a radial cross-section through the opening end forming a semispherical tip end, the tip end including a radially expanded part having a thickness greater than a thickness of the side wall of the core body;

a plurality of circumferentially spaced diamond grain cutting blades formed about the tip end to form gaps between adjacent cutting blades, the cutting blades bound on the opening end to extend from an inner peripheral side of the side wall to an outer peripheral side of the side wall; and

the radially expanded part terminating at a step extending beyond the side wall.

9. (Previously presented) The core drill of claim 8, wherein the step is formed by a right angle between the side wall and the radially expanded part.

10. (Previously presented) The core drill of claim 8, wherein an upper portion of the cutting blades terminate at the step.

11. (Previously presented) The core drill of claim 8, wherein an upper portion of the cutting blades terminate above the step.